

Lomac Settlement

State Signs Settlement Agreement with Lomac Totaling more than \$3 Million in Penalties and Safety Enhancement Activities

On April 11, 2001, Michigan Department of Consumer & Industry Services (CIS) Director **Kathleen M. Wilbur** announced a comprehensive Settlement Agreement with Lomac LLC in Muskegon, with a combined total of more than \$3 million in penalties and additional activities, and 15 violations. The settlement closes a nine-month investigation of a double explosion at Lomac on April 12, 2000, that injured 10 workers.

This forward-looking resolution to the Michigan Occupational Safety and Health Act (MIOSHA) investigation of the Lomac explosion was signed by: Lomac, LLC; Union Local

MIOSHA regulations to enhance worker and community safety."

The Settlement Agreement agreed to by the company includes an action plan with 15 safety enhancement initiatives. The key elements of the action plan, besides the \$150,000 penalty and abatement of all cited hazardous conditions, include the following activities.

- The company will never restart the process where the explosion occurred (herbicide production process).

- The company will notify CIS prior to the commencement of any new commercial production processes.

- The company will remove, and properly dispose of, six highly hazardous chemicals, six flammable chemicals, and two other chemicals from the premises.

- The company will pursue process analysis and review of their chemical operations to achieve lasting improvements in workplace safety and health, as well as community protection.

- The company will support the local fire fighting agency (Egelston Township)



The Wet Well was completely destroyed by the second, larger explosion.

854C (International Chemical Workers Union Council/United Food & Commercial Workers Union); and CIS.

"During the past decade, MIOSHA has identified significant workplace safety and health violations at Lomac," said Wilbur. "This Settlement Agreement represents a strong commitment by Lomac to diligently protect their workers and undertake activities that go beyond

through financial donations and annual training programs.

CIS Deputy Director **Dr. Kalmin Smith** and MIOSHA officials negotiated the Settlement Agreement. In developing this agreement with the company and the union, MIOSHA determined it was critical to ensure that future operations at the company would be conducted

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From the Bureau Director's Desk

*By: Douglas R. Earle, Director
Bureau of Safety & Regulation*



OSHA Standards Update

Federal OSHA's New Ergonomics Standard Was Not Applicable In Michigan

On November 14, 2000, the federal Occupational Safety and Health Administration (OSHA) published its final rule regarding ergonomics. Within the terms of the rule the federal standard became effective on January 16, 2001.

Pursuant to the requirements of MIOSHA and the State Administrative Procedures Act, the Michigan Occupational Safety and Health Administration (MIOSHA) Occupational Health Standards Commission began the process of promulgating an "as effective as" equivalent to the federal OSHA standard on December 17, 2000. The commission's unanimous resolution was to adopt by reference the federal OSHA standard. In accordance with the commission's action we began processing the adoption of the federal standard by reference. In early March, Congress under the Congressional Review Act provisions, voted to **invalidate** the OSHA ergonomics standard.

As with respect to all federal OSHA standards, the federal ergonomics standard did **not** apply in Michigan. Michigan employers do **not** have to comply with the terms of any federal OSHA standard until such time as the MIOSHA program adopts the standard, or a similar standard, covering the same subject matter that is at least "as effective as" the federal standard.

A number of lawsuits were filed challenging the federal OSHA ergonomics standard. They were all consolidated in the United States Court of Appeals in the District of Columbia. Most, if not all, of these legal actions are moot based upon the Congressional action.

The circumstances with respect to the fate of the federal OSHA ergonomics standard were complex. The numerous lawsuits or congressional action could all have impacted the federal standard's application, as well as actions by MIOSHA regarding its adoption.

Because of the Congressional action there is no longer any federal OSHA ergonomics standard that could be adopted by reference by MIOSHA and made applicable in Michigan. The process to adopt the federal OSHA ergonomics standard has been stopped because of the Congressional action. At the present time MIOSHA will take no further action to adopt an ergonomics standard.

Ergonomic Hazards in Michigan

Ergonomically related injuries and illnesses remain a serious problem in Michigan. More than half of the total workers' compensation cases each year are related to ergonomics. In 1999, there were 62,689 Form 100 cases, and 32,026 were ergonomic-related cases. In 2000, there were 66,827 Form 100 cases, and 33,999 were ergonomic-related.

Indeed, as a key element in our MIOSHA five-year Strategic Plan we are committed to help employers and employees reduce the incidence of ergonomically related injuries and illnesses by at least 15 percent over a five-year period. Our primary emphasis will be on voluntary consultation, education and training; however, in certain

cases we will still issue citations pursuant to our authority in Section 11 of the MIOSHA Act (the General Duty Clause) when employers fail to address serious ergonomically related hazards. (Please see related article on Page 3.)

MIOSHA is continuing to place a heavy emphasis on ergonomics and urges all employers to take immediate steps to eliminate musculoskeletal injuries in their workplaces. The **MIOSHA Consultation Education & Training (CET) Division** continues to provide a range of consultation, education and training services to assist employers and employees who wish to reduce or eliminate ergonomic injuries in their workplaces. All of these are voluntary services, and may be obtained without charge by contacting the **CET Division at 517.322.1809**.

MIOSHA Consultation Education and Training (CET) Grants also provide training and assistance to employers on ergonomic issues. For information about services provided by **CET grantees, contact Jerry Zimmerman, CET Grant Administrator at 517.322.1865**.

Other OSHA Standards

President Bush has also taken action which may impact four other federal OSHA safety and health standards that were promulgated late in the waning hours of the Clinton Administration. Of the four, three have applicability in Michigan and trigger the commitment in our State Plan to adopt an "as effective as" or identical standard within six months of the publication of the final federal standard in the Federal Register.

The three standards that we are processing in an effort to adopt the federal standard and make them applicable in Michigan under MIOSHA concern: **Recordkeeping and Recording, Subpart R Structural Steel Erection, and Amendments to the Bloodborne Pathogens Standard**.

The Bush Administration has initiated a review of the above standards and may take some actions which could affect the effective dates of the standards under federal OSHA. Until such action occurs, we nevertheless are committed to promulgate an "as effective as" or identical standard within six months of the publication of these federal rules in the Federal Register. We have begun the process.

Therefore, it is anticipated that the changes in the Recordkeeping and Reporting requirements will be adopted this calendar year and will go into effect on January 1, 2002. The earlier we adopt the new requirements the earlier we can initiate outreach efforts to inform employers and employees of the changes.

We also anticipate the adoption of some, if not all, of the provisions contained in the new federal Subpart R - Structural Steel Erection Standard. As to when the changes will be adopted and what will be the effective date, we cannot say at this time.

The specific changes mandated by Congressional action to the Bloodborne Pathogens Standard are in the process of being promulgated and should go into effect within the next few months.

Douglas R Earle

ERGONOMICS

Working Smarter and Safer

By: Robert Pawlowski, CIH, CSP
Regional Supervisor
Occupational Health Division

Ergonomics is one of the most debated concepts in the workplace today, and is defined as: "The fit between the worker and the work." To MIOASHA, ergonomics means working smarter and safer. There is extensive evidence today that ergonomics programs can cut workers' compensation costs, increase productivity and decrease employee turnover. In fact, ergonomics began as an effort to streamline work processes and improve efficiency to save money.

On Jan. 18, 2001, the National Academy of Sciences (NAS) released their second evaluation of research on musculoskeletal disorders (MSDs). The evaluation verified the relationship between risk factors at work and MSDs. The 2001 NAS review, prepared by 19 distinguished scientists, also verified the value of ergonomics programs in preventing these injuries.

Calling MSDs "an important and costly national health problem," the scientists conclude that ergonomic interventions need to be tailored to specific work and worker conditions. They further state that, "to be effective, intervention programs should include employee involvement, employer commitment, and the development of integrated programs that address equipment design, work procedures, and organization characteristics."

Ergonomic Solutions

While ergonomics relies on a scientific approach to fit the job to the worker, it isn't necessarily exact, and often requires experimentation. Safety and health professionals can identify so-

lutions to eliminate MSDs that result from a mismatch between the job and the worker. In most cases, the solutions can be simple, obvious and inexpensive.

Ergonomic hazards refer to conditions that pose a biomechanical stress to the musculoskeletal system of a worker. Such hazardous workplace conditions include, but are not limited to: faulty workstation layout; improper work methods; improper tools; and job design problems that include aspects of work flow, line speed, posture and force required, work/rest regimens, and repetition rate.

Cumulative trauma disorders (CTDs) are a class of musculoskeletal disorders which arise from repeated biomechanical stress due to ergonomic hazards. CTDs involve damage to the tendons, tendon sheaths, and the related bones, muscles, and nerves of the hands, wrists, elbows, shoulders, neck and back. The more frequently occurring occupationally induced disorders in this class include carpal tunnel syndrome, epicondylitis ("tennis elbow"), tendinitis, tenosynovitis, and low back pain. These disorders develop as a result of chronic exposure of a particular body part to repeated biomechanical stress, which, by cumulative effect, produce a debilitating condition.

MIOASHA Strategic Plan

Ergonomic hazards have been identified as a major source of occupational illness and injury, which is illustrated by high incidence rates and related workers' compensation costs. In Michigan more than half of the total workers' compensation cases each year are related to ergonomics. In 1999, there were 62,689 Form 100 cases, and 32,026 were ergonomic-related cases. In 2000, there were 66,827 Form 100 cases, and 33,999 were ergonomic-related.

As a key element in our MIOASHA five-year Strategic Plan (Performance Goal 1-1B), we are



Doing it Right—The employee's glue gun is supported by a tension cable, which eliminates injuries from manually lifting heavy equipment, at Brass Craft Manufacturing's Brownstown Plant.

committed to help employers and employees reduce the incidence of ergonomic-related injuries and illnesses by at least 15 percent over a five-year period. Our primary emphasis will be on voluntary consultation, education and training; however, in certain cases we will issue citations pursuant to our authority in Section 11 of the MIOASHA Act (the General Duty Clause) when employers fail to address serious ergonomic hazards.

Ergonomic Compliance Inspections

MIOASHA has established guidelines for conducting compliance inspections focused on ergonomic hazards in Standard Industrial Classification (SIC) groups; 201-meat packing, 346-forging and stamping, 344-fabricated structural metal products, and 805-nursing and personal care facilities. These SIC groups have been identified as having elevated over-all illness and injury incidence rates, as well as excessive ergonomic-related incidence rates. Focus on the above stated SIC groups does not preclude conducting activities related to ergonomics in other industries, where death or serious physical harm is being caused or is likely to be caused.

It is MIOASHA's goal to achieve the greatest possible impact in reducing or eliminating ergonomic hazards to employees. Toward that end, the MIOASHA program will conduct inspections concentrating on ergonomic hazards in workplaces of employers in the selected industries. To make the most efficient use of resources, MIOASHA will encourage the adoption of sound ergonomic programs by all employers. Employers receiving a compliance investigation will also receive information on controlling ergonomic hazards in the workplace.

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Doing it Right—A small "jib crane lift" moves plastic rolls, which eliminates back strain from lifting heavy loads, at Brass Craft Manufacturing's Brownstown Plant.

MEAT PRODUCTS INDUSTRY

Making Worker Safety a Priority

By: Martha B. Yoder, Chief,
John Fahrne, Safety Officer,
General Industry Safety Division

Focusing program resources toward specific industries and types of accidents and illnesses has been adopted as a strategy under MIOSHA's Strategic Plan. The plan identifies specific industries, injuries and illnesses for increased program attention through Fiscal Year 2003. The goal is to reduce injury and illness rates in the targeted industries by 15 percent at the end of the plan.

The meat products industry is one of the industries identified in the strategic plan. In Michigan, it is estimated approximately 7,000 people work for the meat products industry in packing plants, plants producing processed meats, and slaughtering operations. The work performed in this industry is labor intensive, requiring significant physical exertion, repetition, and fast-paced work. The 1998 Michigan survey of occupational injuries and illnesses reports the total injury and illness case rate for the industry at 14.3. That means, for every 100 meat product workers, just over 14 are injured or become ill due to work-related exposures, compared to just over eight people for Michigan as a whole.

MIOSHA's strategy for addressing hazards in the meat products industry is to focus outreach efforts toward this industry during the initial implementation of the plan, followed by greater enforcement presence in subsequent years.

MIOSHA has conducted nearly 150 safety inspections during the past 10 years at meat products facilities, citing more than 1,110 violations for hazards. Frequently identified MIOSHA violations have been related to lockout-tagout, machine guarding, personal protective equipment, house-

keeping, hazard communication-employee right to know, electrical safety, and guarding of walking and working surfaces. Although not one of the most frequently cited hazards, ergonomic issues are a significant concern at meatpacking plants.

Machine Guarding

The number one area of concern identified in MIOSHA safety inspections at meat products facilities has been guarding of machines and equipment. Unguarded belts and pulleys, chains and sprockets, and rotating and reciprocating parts are the most frequently identified inadequacies.

Generally, machines which run continuously and present a hazard to employees at the point of operation are required to be fully safeguarded in a manner which prevents the entry of any part of an employee's body into the hazard zone during machine cycling.

General requirements for guarding also include requirements for pinch points which occur when an employee can become caught between moving parts of a machine, between moving and stationary parts, or between material and any part of the machine. Pinch points must be guarded so that employees are not exposed.

Of serious concern in meat packing operations is proper guarding of augers and conveyors to avoid employee entanglement. Where a hazard exists, conveyors must be guarded to protect an employee from contact with moving parts where adjustments are required when a conveyor is in operation. Conveyors must be guarded so that an employee will not be caught or trapped between the conveyor and a stationary or moving part.

MIOSHA requires that auger and screw conveyor openings be covered with secured screens or covers or equipped with an interlocked cover that cuts the power when raised and that will not restart

until the cover is replaced and the start actuated. Nip points at the pulley of belt conveyors must be guarded by an enclosure or barrier constructed to prevent access by an employee's body or loose clothing.

Lockout-Tagout

Equipment and machinery must be locked out when employees are performing servicing or maintenance work in which the unexpected energization or start up of the machines or equipment, or a release of



A typical boning platform in a meatpacking operation.

stored energy, could cause injury to employees. This includes cleaning of equipment.

The provisions of the lockout-tagout standard apply when any of the following situations exist:

- An employee must either remove or bypass machine guards or other safety devices, resulting in exposure to hazards at the point of operation;

- An employee is required to place any part of his or her body in contact with the point of operation of the machine or piece of equipment; or

- An employee is required to place any part of his or her body into a danger zone associated with a machine operating cycle.

Hazard Communication-Employee Right to Know

The most frequently cited provision of the Hazard Communication Standard is the requirement for a Right to Know program. Often a program is found to exist, but to have inadequacies because of missing components such as the chemical list, or an incomplete chemical list due to a change in products used. Another program inadequacy occurs when the person designated as responsible for the program changes, but the program is not updated.

Employee information and training is also frequently cited provision of the standard. Under the standard, employees must be trained on the chemicals they will be using prior to initial assignment. High turnover rates or rapid expansion of staff have been identified as reasons for employees working without proper training.

The required posting to inform employees of the Right to Know program is also frequently identified as missing during inspections of meat products facilities.

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This worker is removing the hide from the animal in the kill floor area.

NOISE

Awareness & Prevention

By: Patrick Harris, CIH
Onsite Consultation Supervisor
Consultation Education & Training Division

Sure, most of us know that extended exposures to loud noises will eventually reduce our ability to hear. But, do you realize that these prolonged noise exposures can also produce some other effects? Heart and blood circulation problems, reduced work efficiency, low birth weight babies, emotional and behavioral problems, sleep disruption, poor language skills in children, and inattention to signals of danger are some of the additional effects from excessive exposure to loud noises.

First we should ask, where is all of this noise coming from? "Progress!" The entire world is becoming more modern. In our everyday lives there are more cars and trucks, more recreational devices, more aircraft for faster transportation; more machinery for construction, demolition, and services; and there are more of us - more people.

And, what is a major byproduct of this modern society? More noise! This isn't just louder noise. It's **more exposure** to loud noises as they creep into nearly every facet of our lives. We wake up to a blaring radio; shave with a noisy razor; blow dry our hair; travel to work in traffic or on a commuter train; work for eight or more hours using telephones, machinery, powered equipment, etc.; return home amidst more noise; and "relax" by going out to a shooting range, cutting the grass, going out for a snowmobile ride, or going to a restaurant with a live band. Our ears need a rest. So, how does this additional exposure to noise affect us?

Noise-Related Stress

Noise is a significant cause of stress. At work, at home, during travel, and at play, the extensive or excessive exposures to noise can cause definite physical and psychological stresses. We may attempt to block out or ignore these noises, but our ears are always open and these stresses will build. Some noise stress may start slowly and just give us a tension headache. But, as the exposure continues, it can make us irritable, disturb our sleep, and disrupt our thought processes. These noise stresses can contribute to misjudgement, and excessive noise levels can obscure warning signals. Both can lead to accidents or hamper rescue.

The stress of excessive noise exposure has been linked to heart disease. It can increase the heart rate, elevate the blood pressure, raise serum cholesterol, and cause blood circulatory

problems. It can even make us more susceptible to disease and infection. This is especially true for those who are already mentally or physically ill.

Noise can also affect the unborn. The fetus is not well protected from noise and is subjected to the mother's responses to the stress of noise exposure. Noise has also been shown to contribute to low birth-weight babies. While this is not believed to be dangerous, it does cause some concern.

Noise-related stress also affects our emotions, social interactions, and work efficiencies. It primarily affects the accuracy, as opposed to the quantity, of work. Studies have shown that quieter workplaces are more productive and efficient, and they have lower injury rates than noisier work settings.

Hearing Loss

Although most of us seem to be aware that prolonged exposure to loud noises causes hearing loss, this illness just doesn't seem to get much respect. "Why not?" Hearing loss is usually a very slow and silent disease. There is no bleeding and there are no visible signs of the progressive damage being done to the inner ear. In addition, many of us actually expect to lose some of our hearing as we age. Others say that noise is just "the price that we pay for progress."

What happens to us as we lose our hearing? Initially, only the very high frequency sounds are no longer able to be recognized. As the disease develops, the speech frequencies are eventually affected and the higher frequency sounds of "s" and "ch" are not noticed or are indistinguishable. Soon, all speech becomes garbled or muffled.

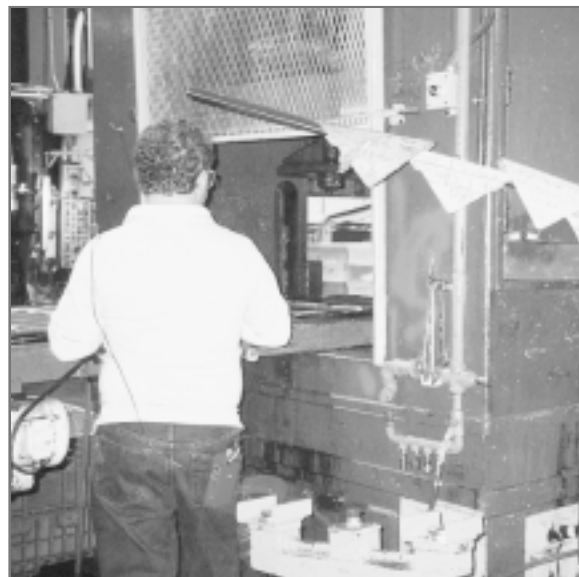
Those who suffer from hearing loss also pay an emotional price. The typical modes of communication (television, radio, and telephone) become difficult to use. Often, friends avoid conversing with the hearing impaired and may not even associate with them—because of having to repeat themselves or feeling like they're not being listened to. Those with hearing loss may find themselves eventually avoiding social gatherings. Feelings of isolation may also start to develop. Admittedly, some of this hearing loss is the result of the natural aging process affecting the inner ear. But, so much of this can be prevented.

Preventing Work-Related Hearing Loss

Hearing loss is one of the most common occupational illnesses. Some 30 million Americans are exposed to hazardous noise on the job. Studies have shown that quieter workplaces are more productive and efficient, and they have lower injury rates than noisier work settings.

How can hearing loss be prevented? Hearing loss is preventable—but it is permanent and irreversible once it occurs. Both the **duration** of the noise exposure and the **intensity** of the noise source should be reduced to effectively protect workers' hearing.

Within an industrial setting, quieter machinery can be purchased or enclosures can be constructed over or around the noisier equipment. While these **engineering controls** for noise reduction can be very effective, some of



Earplugs are protecting this employee from loud stamping press noises. He is being monitored for noise exposure.

them can be too complicated to install properly and most of them involve significant costs. A simpler and cheaper method of noise control involves the installation of mufflers on the compressed air discharges of pneumatically-operated equipment. Good maintenance of the machinery can also help reduce generated noise. "Buy it quiet, keep it quiet" should be the phrase of today.

Administrative controls can also be used to reduce employee exposure to noise. The primary administrative control is to rotate employees, so they spend a portion of their workshift in a quieter job. However, the use of rotation as

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Golf Courses

It's Time "Fore" Safety

By: *Martha Yoder, Chief,
Charles Lorish, Regional Supervisor,
General Industry Safety Division*

The arrival of spring in Michigan brings with it an increase in outdoor activities and recreation. Golfing is a favorite Michigan warm-weather pastime. In fact, *Travel Michigan* refers to Michigan as "America's Summer Golf Capital." With more than 800 public golf courses in Michigan—more than any other state in the country—there is a course for every skill level.

It takes a substantial number of workers to keep Michigan golf courses in top playing condition. And all of those workers are covered by the safety and health provisions of MIOSHA. Employers who require employees to use chemicals, powered equipment, hand tools, mowers and tractors must be mindful of the applicable MIOSHA standards.

As one of many members of the "Green Industry," golf course operations rely on a significant number of seasonal workers. These businesses must diligently work to protect their workers, particularly in the area of hazard recognition and employee training.

During the past 10 years, MIOSHA inspections have identified the following areas most frequently during inspections of golf courses.

Hazard Communication/Employee Right to Know (RTK) programs to address chemicals used in the workplace were the most frequently cited area. This included lack of an overall program, posters, MSDS (material safety data sheet) sheets to pro-

vide information on chemicals used, and training for employees. Employees must be trained prior to initial assignment and whenever a new chemical hazard is introduced into the workplace, and all containers of chemicals must be labeled.

Sample Hazard Communication Programs are available from the MIOSHA Consultation Education & Training (CET) division. The basic goal of a Hazard Communication Program is to be sure employers and employees know about chemical hazards and how to protect themselves.

In addition to MIOSHA's RTK requirements, golf course owners must also be mindful of **Michigan Department of Agriculture (MDA)** requirements. MDA requires that all employees who apply pesticide products for commercial purposes be either a certified or registered technician. Employees who are asked to use pesticides to manage pests of turfgrasses, ornamental plants, seeds or to preserve wood are subject to MDA rules. For more information on MDA requirements, contact the Pesticide and Plant Pest Management Division, 517.373.1087.

Guarding of power transmission was the second most frequently cited condition. This includes belts, pulleys, chains, and sprockets on equipment such as grinders, drill presses, air compressors, refrigeration units and mobile equipment.

Compressed Gas Cylinders, such as the CO2 cylinders for pop, must be restrained, and was the third most frequently cited hazard.

Electrical equipment must be properly maintained. This, the fourth most cited area, includes covers on electrical equipment, maintaining flex cords, and ensuring strain relief. Examples of electrical hazards identified at golf courses include: running flex cord around poles and through the ceiling to plug in ice and pop machines; damaged cords on food service equipment, coolers, fans, blowers; missing switch plates; and lack of plugs in unused electrical openings.

In addition to the top four cited areas, the following workplace safety issues are commonly cited during inspections of golf courses.

Personal Protective Equipment (PPE) needs must

Businesses in the "Green Industry," including lawn care, landscape, nursery and horticulture, face many of the same hazards as golf courses.

be determined by the employer. The MIOSHA General Industry PPE Standard, Part 33, requires that an employer must perform a written assessment of hazards. Common hazards requiring personal protective equipment at golf courses include the use of groundskeeping equipment such as mowers, blowers, weed whips, and trimmers which require eye protection and foot protection when operating walk-behind equipment. Use of maintenance equipment including grinders and welders, and handling of chemicals such as battery acid, pesticides, and herbicide, all require a minimum of eye protection and may require face, body and hand protection. Sample assessment information for necessary personal protective equipment is available from the CET Division.

In addition, Occupational Health Part IV, General Workplace Requirements, addresses the issue of eye washes and safety showers for those employees who may be exposed when handling chemicals such as battery acid, pesticides and herbicides.

Tractors must have the power take-off guarded with a shield. Tractors of 20 horsepower or more operated on a slope that could cause the tractor to overturn must be provided with rollover protection and a seat belt for the operator. The operators must be trained and tested in accordance with the rules found in the MIOSHA General Industry Tractor Standard, Part 22.

Fueling of equipment must be done with an approved and labeled safety can. Plastic gas containers are not acceptable.

Where employees are required to **trim or remove trees**, additional equipment and PPE requirements are specified in the MIOSHA General Industry Tree Trimming and Removal Standard, Part 53.

Finally, for golf courses with a driving range where operators are required to collect balls while golfers are using the range, workers must be protected by an enclosure and wear **head protection** while exposed to the possibility of being hit.

Given the seasonal nature of their business, golf course operators have an obligation to furnish necessary training to their employees. Proper orientation and training are crucial to creating a safety culture in the workplace. The CET Division is available to assist employers with their safety and health training and consultation needs, and can be contacted at 517.322.1809. ■



City of Lansing Parks & Recreation employee, James Villarreal, is mowing the greens at Groesbeck Golf Course, and is wearing appropriate protection equipment.

The Bottom Line

Workplace Safety and Health Makes Good Business Sense

Harsco Track Technologies - Ludington Plant

Harsco Track Technologies is a major supplier of track construction and maintenance equipment to the world's railways. They are a single source for more than 130 types and models of work equipment for track and structure maintenance, track renewal, and new track construction. They are a subsidiary of Harsco Corporation, a diversified, global provider of industrial services and engineered products with annual sales in excess of \$1.6 billion. Harsco's five divisions employ more than 14,600 workers at over 250 locations in 31 countries.

The Ludington plant was formerly known as Pandrol Jackson and was founded in 1922. They were purchased by Harsco in 1999, and employ nearly 325 workers. They manufacture railroad maintenance equipment which straightens existing tracks and enables trains to safely carry heavier loads, at greater speeds.

Safety Policy

Harsco Corporation is committed to the safety of their employees and to compliance with applicable statutes, regulations and ordinances in all their operations. They believe a strong safety program empowers the organization and individuals to achieve the highest level of performance. Their guiding policy is: All workplace injuries and illnesses are preventable. They require all their operations to conduct risk analyses, determine safe work practices, develop safe operating procedures, and take necessary actions to minimize risk to workers. They have pledged that safety will never be compromised in order to meet productivity deadlines or other business demands.

Pandrol Jackson Safety Record

In the early 1990s, the Ludington Pandrol Jackson plant had a high injury and illness incident rate, peaking at 22.3 in 1994, with 70 recordable injuries. The national incident rate in 1994 for their SIC code was 16.1. They averaged nearly 250 lost work days a year during this time. Under the old Pandrol Jackson management, they worked very hard to reduce the rate in the late 1990s to 14.3. If their incident rate dropped below the national average for their industry, it was considered a good year.

When the Harsco Corporation purchased the Pandrol Jackson facility, corporate safety officers conducted a very complete safety audit of the Ludington operation. After the audit they developed guidelines to improve the safety and environmental programs. With corporate support and

all the employees' hard work, the Ludington operation turned around dramatically. Introduction of several new safety and audit programs provided excellent results, with employee awareness and commitment the most important. Today employees conduct audits of their work areas, which makes them aware of safety conditions and hazards that can be corrected. This behavior helped the Ludington facility reduce their recordable accidents in 2000 to 18, with only one lost workday. Their incident rate was 6.08, not yet at the Harsco Corporation goal of 5.0, but a tremendous improvement from the 22.3 incident rate in 1994.

CET Services

Consultation Education and Training (CET) Division Consultant **David Nelson** has worked with Ludington plant, and recommended them for this feature. According to Nelson, many companies which are involved in heavy manufacturing blame their high injury and illness rates on the nature of the work. Harsco has not done that. They realize that a healthy employee is necessary for top productivity, just the same as a healthy athlete is necessary for championship performance. "Their significant reduction in their incident rate makes them an excellent candidate for this feature," said Nelson.

With the continued dedication of all employees, the Ludington Harsco plant is striving to become a leader in workplace safety and health among all Harsco Corporation's facilities. According to **Ron Jacobson**, Safety and Environmental Director, "In the Ludington plant today, safety isn't just a new word—it's a new way of life!"



Employees are proud of the "Stoneblower," a revolutionary machine that restores a track's vertical and lateral alignment, which they manufacture in Ludington.

This column features successful Michigan companies that have established a comprehensive safety and health program which positively impacts their bottom line. An accident-free work environment is not achieved by good luck—but by good planning! Creating a safe and healthy workplace takes as much attention as any aspect of running a business. Some positive benefits include: less injuries and illnesses, lower workers' compensation costs, increased production, increased employee morale, and lower absenteeism.



*By: Dan Vartanian, NETS Coordinator
Michigan State Police
Office of Highway Safety Planning*

Michigan is truly a unique state. Our bustling cities and quiet communities offer a pleasant and diverse quality of life. Our beautiful lakeshores and national forests provide unsurpassed recreation. Michigan has made pivotal contributions to industry, education and music, and we're proud of the distinctive niche we've carved in our nation.

But sadly, when it comes to motor vehicle crashes, we're no different from many other states plagued by highway deaths and injuries. Most of our 1,386 traffic fatalities and 124,601 injuries can be attributed to driver error. And each year these crashes cost Michigan taxpayers, municipalities and businesses billions of dollars. In 1998 the estimated economic loss due to traffic crashes was \$9.6 billion. If costs were spread across the state's population, this would translate into a loss of almost \$1,000 per state resident.

To help address this problem the state formed the **Michigan Network of Employers for Traffic Safety (Michigan NETS)**. As a public/private partnership, Michigan NETS unites the highway safety expertise and resources of the Office of Highway Safety Planning with the knowledge and private sector insights of business leaders.

The goal is to increase profits, reduce operating costs, and minimize the public costs to citizens and businesses by reducing motor vehicle-related deaths and injuries. Through training, information resources, policy statements, and campaign materials, Michigan NETS assists employers in the creation and implementation of effective traffic safety programs.

Our program has made an impact. Michigan employers are enthusiastic about their results, and word is spreading quickly about the effectiveness of traffic safety programs. Michigan NETS is helping businesses take an active step toward preventing unnecessary traffic crashes.

By helping employers implement well-developed policies, dynamic workplace programs and compelling community activities related to traffic safety, Michigan NETS enhances the quality of life and reduces the cost of doing business.

For more information on the Michigan NETS program and how you can become a member, please contact **Dan Vartanian** at the **Office of Highway Safety Planning**, 517.333.5322, or visit the Website at <http://www.michnets.org>.

Traffic Fatalities

Practical Steps to Reduce Motor Vehicle Crash Risks

Workers are more likely to die from traffic-related motor vehicle crashes than from any other hazard on the job, including workplace violence and machine-related injuries. In Michigan, deaths from transportation incidents continued to be the leading cause of workplace fatalities in 1999, according to the **Michigan Census of Fatal Occupational Injuries**. (See article on Page 9.)

Transportation incidents cover transportation vehicles, powered industrial vehicles or powered mobile industrial equipment in which at least one vehicle is in normal operation and the injury was due to collision or other type of traffic accident, loss of control, or a sudden stop, start, or jolting of a vehicle regardless of the location where the event occurred.

Although MIOSHA does not have standards or regulations covering transportation activities, there are regulations which cover some aspects of transportation activities in construction work areas. However, the MIOSHA program recognizes that employers and workers can take practical steps to reduce motor vehicle crash risks.

In 1998, the National Institute for Occupational Safety and Health (NIOSH) issued a report on vehicular safety, which highlighted the risks and recommended practical protective measures. NIOSH is the federal agency responsible for conducting research and making recommendations for the prevention of work-related disease and injury.

The report indicates that by taking some basic and effective precautions, employers can save lives and reduce costs while research progresses for further improvements. NIOSH recommends that businesses assess their past experience with motor vehicle safety to identify appropriate measures for preventing traffic-related death and injury among their employees.

In general, effective steps may include:

- Establishing and enforcing a written policy requiring drivers and passengers always to use seat belts.
- Providing a seat belt for the driver and each passenger in each employer-provided vehicle, and limiting the number of passengers to the number of seat belts.
- Conducting driver's license background checks on prospective employee drivers before they are hired.
- Ensuring that drivers comply with designated speed limits, and prohibiting workers from driving on the job when they are fatigued.
- Ensuring that employees in construction and maintenance zones wear high-visibility clothing and use appropriate barriers and traffic control.
- Training drivers in safe driving practices and proper use of safety features.
- Establishing written procedures for proper maintenance of vehicles.
- Equipping new vehicles with appropriate occupant protection such as seat belts, and where feasible, with other safety features such as anti-lock brakes.
- Considering the adoption of U.S. Department of Transportation regulations for commercial drivers as part of the company's vehicle safety program.

In an analysis of U.S. data for 1990-92, NIOSH found that the industries with the highest average annual rates of death per 100,000 workers from traffic-related motor vehicle crashes were: trucking, logging, fuel dealers, petroleum products, and agriculture crop production. Occupations with the highest annual average fatality rates per 100,000 workers were: truck driver, garbage collector, sheriff/bailiff, farm worker supervisor, and surveying and mapping technician.

The NIOSH analysis also found that workers fatally injured in vehicle crashes were mostly male (93 percent); most were aged 25 to 54 (70 percent); most were drivers (76 percent) as opposed to pedestrians or vehicle passengers; most were not using any type of safety restraint (62 percent); and most of the drivers showed zero blood alcohol concentration (87 percent).

Copies of the report, "*NIOSH Alert: Preventing Worker Injuries and Deaths from Traffic-Related Motor Vehicle Crashes*," NIOSH Publication No. 98-142, are available from the toll-free number, **800.35.NIOSH**, or the Website, www.cdc.gov/niosh.

1999 Michigan Census of Fatal Occupational Injuries

By: Gordon Spitzley, Analyst
MIOSHA Information Division

Introduction

The number of fatal work injuries in 1999 rose to 182, about two percent above the 1998 total of 179, and the highest count since 180 fatal work injuries were recorded in 1994.

The 1999 increase was due mainly to eight multiple-fatality work injury accidents. Three explosions resulted in 13 fatalities, while four homicides occurred at a restaurant. There were four other multiple fatalities: an airplane crash, a railway accident, a motor vehicle accident, and a silo accident, each accounting for two fatalities. These eight accidents resulted in 25 fatalities combined or about 14 percent of the year's total.

Profiles of 1999 Fatal Work Injuries

Deaths from **Transportation** incidents, including highway crashes, continued to be the leading cause of on-the-job fatalities in 1999, accounting for 34 percent of the fatal work injury total. Transportation incidents increased 15 percent, from 53 in 1998, to 61 in 1999. This equals 1997 and 1993 as the highest number of transportation fatalities recorded.

The second leading cause of on-the-job deaths, **Contact with Objects and Equipment** accounted for 33 fatalities or 18 percent of the total, a decrease from 36 fatalities or 20 percent in 1998. Six percent of the fatalities in this category in 1999 were the result of workers being struck by an object.

Assaults and Violent Acts decreased from 1998 to 1999, recording 32 fatalities in 1998 and 27 in 1999. Twenty fatalities or 11 percent were the result of homicides in 1999, down from 22 homicides in 1998. The number of shootings remained the same from 1998 to 1999, recording 17 fatalities in each year. The number of self-inflicted injuries decreased to six in 1999, down from 10 in 1998.

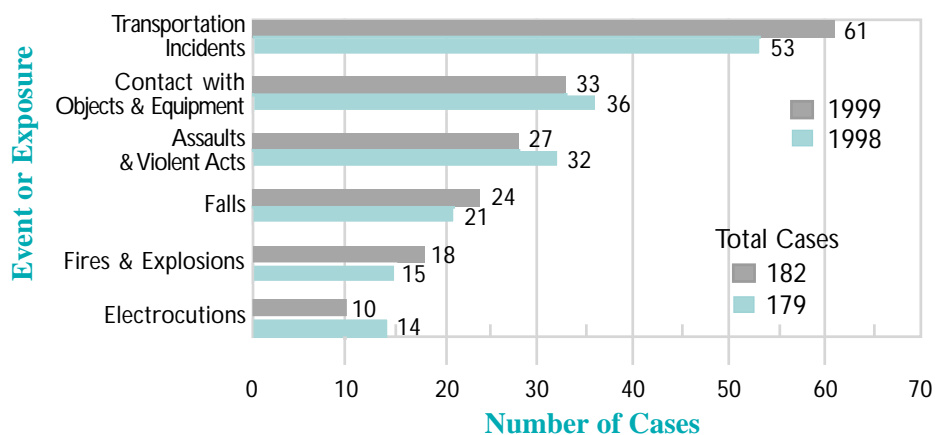
The 1999 Census of Fatal Occupational Injury statistics also showed that **Falls** occurred in 24 cases or 13 percent of the total, up from 21 cases or 12 percent in 1998. The number of workers fatally injured due to **Fire and Explosions** increased to 18 or 10 percent in 1999, up from 15 cases or eight percent in 1998.

The largest number of fatalities occurred in the 35 - 44 age group, which recorded 47 fatalities or 26 percent of the yearly total. **Men** recorded 166 fatal injuries, while 16 fatal injuries occurred to **Women** in 1999. **Electrocutions** accounted for 10 cases or five percent of the fatal injuries in 1999, down from 14 cases or eight percent in 1998.

The majority of the fatal injuries occurred in the **Construction Industry** (41) followed closely by **Manufacturing** (38) and **Retail Trade** (25). Occupations with the largest number of fatal injuries included: Operators, Fabricators and Laborers; Precision Production, Craft and Repair; and Managerial and Professional Specialty.

For further information, please contact the **MIOSHA Information Division** at **517.322.1851**. ■

**Census of Fatal Occupational Injuries
by Event or Exposure, Michigan, 1998 & 1999**



Fan Guarding

Keep Employees Cool & Safe

The summer months and warmer weather means an increase in the number of fans in use in workplaces throughout Michigan. While the use of fans is necessary for employee comfort, the presence of fans requires attention to insure proper guarding. Under MIOSHA, employers are required to protect employees from exposed fan blades.

Personal cooling fans come in many varieties and sizes, from large oscillating fans on floor stands, to box style fans, to small clip-on styles. No matter the style of fan, or whether the fan is employee-owned or company-provided—when it is used in the workplace it is the **employer's responsibility** to ensure that it is guarded properly and maintained in good working condition.

Blades of fans used for cooling or ventilation must be **guarded** when located within seven feet of the floor or working level. Openings in guards of personal fans cannot have more than one of their dimensions greater than one inch, measured in any direction. The distance to the blade must be in compliance with the guard openings specified in Table 1 of General Industry Safety Standard, Part 1, General Provisions.

In addition, the electrical cords of portable fans must be visually inspected prior to initial use, when moved from one location to another, or when the possibility exists that the electrical cord may have been damaged. Equipment with defective electrical cords must be removed from service until repaired and tested.

Employees should be also reminded to be sure hands are dry and power turned off prior to plugging or unplugging portable electrical equipment, including fans.

Process cooling fans must also have blades guarded when located less than seven feet above the floor or working level. The distances from the opening to the blade must be in compliance with Table 2 of Part 1.

For specific rules regarding fan guarding, please reference General Industry Safety Standard, Part 1, General Provisions, Rule 34(7), 34(8) and Tables 1 and 2.

Reminder to Employers:
Be sure to inspect electrical devices employees bring into the workplace.

U.P. Safety Conference Huge Success!

The Upper Peninsula Safety Conference attracted more than 200 presenters, vendors and attendees from across the U.P. and the state. M-TEC (Michigan Technical Education Center) at Bay de Noc Community College hosted the conference on January 25, in Escanaba.

MIOSHA Director Doug Earle was the keynote speaker, and praised the efforts of the committee that organized the event. "My staff and I are very impressed with this facility, the outstanding presentations, and especially the enthusiastic participants," said Earle.

The conference committee included members from across the Upper Peninsula representing a variety of businesses. There were 20 breakout sessions with topics including: Fall Protection, Confined Space, Disaster Response, Accident Investigation, Ergonomics, Construction Safety, Toxins and Noise, and the MIOSHA Rulemaking Process.

MIOSHA speakers included: **Rick Mee**, Chief, Construction Safety Division; **Connie Munsch**, Chief, Standards Division; and **Marsha Parrott-Boyle**, Industrial Hygienist Standards Specialist, Standards Division. Director Earle and MIOSHA staff also held a Q & A session at the end of the day.

Jayne Bernard, Director of Safety Training at M-TEC was pleased at the conference turnout—the first one held in the U.P. since 1996. "When our committee started planning, we weren't sure we'd get enough participants to cover our costs. The overwhelming response has indicated there is a huge interest in safety and health issues," said Bernard.

One of the biggest benefits to those in attendance was information about how to protect workers and save money. Presenter **Pam Prim**, Director of Training, Hannahville Indian Community, stated that her organization has realized significant savings by reducing workers' compensation premiums since implementing ways to reduce repetitive-motion injuries. "We believe in safety training!" said Prim.

Brian Lantagne with Mead Paper Division was a member of the conference committee and was also pleased with the results. "I'm sure everyone who attended the conference learned something valuable," said Lantagne. "I expect next year's conference will be even better!"

Next year's U.P. Safety Conference will be held January 21, 2002. For more information on the conference, contact Jayne Bernard at M-TEC, 906.786.5802, ext. 1510.



MIOSHA Director Doug Earle speaking at the U.P. Safety Conference.

Wage & Hour NEWS

New Commercial Prevailing Wage Schedules

The new 2001 prevailing wage rate schedules for general construction projects are now available from the Wage & Hour Division. Recently the division completed the annual process of reviewing over 100 collective bargaining agreements of construction mechanics to compile updated wage and fringe benefit information as required by the Michigan Public Act 166 of 1965, Prevailing Wage on State Projects Act.

In the fiscal year ending September 30, 2000, the division responded to 1,460 requests for prevailing wage rate schedules. A large majority of these requests were project related and originated from contracting agents.

The act defines "contracting agent" as schools or state institutions supported in whole or in part by state funds, and authorized to enter into a contract for a state project or to perform a state project by the direct employment of labor.

The act requires the state prevailing wage rates to be paid when three conditions are met:

1. The project is sponsored or financed in whole or in part by the state;
2. The contract is entered into pursuant to advertisement and invitation to bid; and
3. The project involves the employment of construction mechanics.

Before advertising for bids on a state project, the act requires a contracting agent to obtain from the division, a determination of the prevailing wage rates for all classes of construction mechanics called for in the contract. The act states that this "schedule is to be made a part of the specifications for the work to be performed and shall be printed on the bidding forms where the work is to be done by contract."

To assist contracting agents in meeting this requirement of the act, the Wage & Hour Division maintains commercial rate schedules for each of Michigan's 83 counties. Each schedule contains over 90 classifications of construction mechanics. If additional classifications are required for a project, the contracting agents must contact the division to identify what classification is needed and request a wage and fringe benefit rate determination. Contracting agents should allow ample time to obtain the additional rate information.

Contracting agents may request rate schedules by calling the division at 517.322.1825. The division will request the identity of the contracting agent, what county rates are requested for, and brief project description.

Project-related rates are issued for 90 days. If a contract is not awarded or construction not undertaken within 90 days of the rate issue date, the contracting agent must request another rate schedule from the division.

Rates are also provided for general information to the public for a minimal fee. The division's website also contains general information on rate schedules.

Wage & Hour Division

517.322.1825

www.cis.state.mi.us/bsr/divisions/wh/home.htm

Onsite Consultation Program Changes

By: Ayalew Kanno, Ph. D., Assistant Chief
Consultation Education & Training Division

To help employers better understand and voluntarily comply with the Michigan Occupational Safety and Health Act (MIOSHA) without citations or penalties, free onsite consultation services have been available to small Michigan employers for over 20 years through the Consultation Education and Training (CET) Division. The program continues to help employers identify and correct potential safety and health hazards under revised guidelines.

On July 16, 1998, Section 21 of the federal Occupational Safety and Health Act (OSHA) was amended by Congress by adding subsection (d), which requires the U.S. Secretary of Labor to establish a compliance assistance program by which employers can consult with state personnel regarding the application of and compliance with occupational safety and health standards independent of an enforcement activity.

The following are the major changes to the onsite consultation program being implemented pursuant to this amendment.

- In accordance with the Government Performance and Results Act of 1993, onsite consultation efforts are to be linked to MIOSHA's strategic and performance goals. MIOSHA's Consultation Project activities are to address the injuries and illnesses in the targeted industries, or the causes of injuries, illnesses, or fatalities identified in the MIOSHA strategic and annual performance plans.

- As a condition of receiving the consultation services, the employer must agree to post the List of Serious Hazards, as it was received from the CET Division following completion of the hazard survey, for either three working days or until the serious hazards are corrected, whichever is later. Agreed-upon modifications or extensions of correction due dates must also be posted. This was effective March 1, 2001.

- The employer's name and the results of the onsite visit will remain confidential from enforcement, except in situations where imminent dangers or serious hazards are not corrected as agreed upon, or except as required by other standards. This was effective October 1, 2000.

- A consultation visit in progress takes precedence over a scheduled general inspection. A consultation is in progress from the beginning of the opening conference to the end of the correction due dates, including extensions. CET is working out the details of this requirement with the enforcement divisions.

- Employee participation is required in all site visits. Requirements vary according to whether the site is unionized. This was effective March 1, 2001.

- The criteria and requirements for participation in a safety and health achievement recognition program have been clarified. CET is currently developing policies and procedures for Michigan employer participation.

Michigan employers requesting onsite consultation services will be provided with written guidelines for participation in the program. These changes are intended to benefit employers who operate in good faith by volunteering for assistance in providing a safe and healthful workplace for their employees. Any questions regarding these changes may be directed to CET's onsite consultation management at 517.322.1809.

MIOSHA recently produced a video on the Onsite Consultation Program. Six Michigan businesses, who have had very successful experiences with the MIOSHA onsite program, helped MIOSHA produce this video to explain the services. To order the video, please call the CET Division at the number listed above.

The Onsite Consultation service is part of a complete series of programs offered by the CET Division to help employer and employee groups improve workplace safety and health practices. Consultative services are available through site visits or by FAX, mail, or telephone communications. Training and education services are provided through seminars, workshops and special programs in cooperation with area safety councils, educational institutions and other non-profit organizations. The Michigan Voluntary Protection Program (MVPP) recognizes sites having outstanding safety and health programs. A free video loan service is also available. Occupational safety and health educational materials are available from CET's publications library. Information is available at 517.322.1809 and on our website: www.cis.state.mi.us/bsr/divisions/set/.



Gonzalez Manufacturing Technologies, Madison Heights, helped produce the MIOSHA Onsite Consultation video.

CET Grants (Formerly SET Grants)

- The SET (Safety Education and Training) Grant program has changed its name to CET (Consultation Education and Training) Grant program.

- Funding for the CET Grant program has been increased from \$850,000 to \$1,000,000 for FY 2001-2002.

- With the increase in funding for the upcoming year, the grant program is encouraging proposals for research projects that specifically address MIOSHA Strategic Plan goals. (Please refer to the MIOSHA website at www.cis.state.mi.us/bsr for more information on the Strategic Plan.) The CET Grant program will continue to fund occupational safety and health training services.

- The process for funding of the CET Grants for FY 2001-2002 began with the mailing of interest cards on March 16. Request for Proposal (RFP) packages will be mailed to organizations returning the interest card, starting on April 17.

- CET Grants are awarded on a competitive basis to management/ employer groups, labor/employee organizations, and non-profit organizations such as hospitals, service agencies and universities.

- There are currently 17 CET grantees covering a wide range of workplace safety and health issues, particularly emerging issues. The statewide programs develop educational materials, provide training, and emphasize prevention strategies to reduce injuries and illnesses.

For information on the CET Grant program, or to receive an RFP, please contact Jerry Zimmerman, CET Grant Administrator, at 517.322.1865

Maintenance Safety and Risk Assessment Survey

A research team led by **design safety engineering, inc. (dse)** has received a Ford Motor Company grant, in cooperation with the UAW and MIOSHA, to conduct research on risk assessment methods for maintenance activities.

Risk assessment is a critical factor to successfully reducing workplace safety and health risks. Risk assessment enables users to identify possible hazards and to develop alternative design or operational solutions to eliminate, mitigate or reduce the risks.

Many existing risk assessment methods focus on overall system risk (equipment and operations) and resulting economic resource allocation, rather than the specific risks to maintenance personnel. Maintenance activities involve a very special set of circumstances that are typically complex, involve considerable trouble shooting efforts, and usually encompass time pressures to complete repair.

In completing this research, the team will:

- Conduct a survey of maintenance personnel at large and small facilities to obtain data on the practical constraints and specific needs affecting hazard analysis and risk assessment for maintenance activities.
- Analyze the data to identify gaps in existing methods/tools.
- Develop a practical model for maintenance personnel to assess risks.
- Communicate the results of the survey to maintenance personnel and tool developers.

design safety engineering, inc. (dse) is launching the survey in mid-March and concluding in June 2001. The survey seeks input from maintenance personnel and supervisors and those needed for maintenance work. The intent of the research is to narrow the gap between existing hazard analysis and risk assessment methods.

"Although operator safety has received attention over the years, the safety of maintenance personnel has often been overlooked due to a variety of factors," said Bruce Main, President, dse. "We hope that a better understanding and better equipment designs can result from this effort by focusing attention on the special needs and constraints of maintenance work."

Following the analysis of the survey, a training guide will be prepared to communicate the suggested hazard analysis and risk assessment methods to the maintenance community. Additionally, 10 half-day workshops will be held to disseminate the survey results.

All maintenance personnel and supervisors in companies large and small are encouraged to complete the interactive survey at www.designsafe.com. A printable version is also available on the site. Responses will be kept completely anonymous. Respondents can request a summary after completing the survey.

design safety engineering (dse) has been working to improve safety through design since 1995. Located in Ann Arbor, Michigan, dse specializes in eliminating product and manufacturing hazards by providing design evaluations, safety consultations and risk assessment software. If you would like more information on this research project, please call **734.483.2033**, or visit their website at www.designsafe.com.

This grant is one of four grants awarded by Ford Motor Company as part of their Settlement Agreement with the Bureau of Safety & Regulation (MIOSHA) following the Ford Rouge Power Plant explosion on Feb. 1, 1999. The grant research team consists of: independent risk assessment specialists, faculty at the University of Utah, the Safety Council of Southeast Michigan, and design safety engineering, inc.

Regulations 101

An Environmental and Safety & Health Course

The Michigan Departments of Environmental Quality (DEQ) and Consumer and Industry Services (CIS) offer assistance to Michigan manufacturers facing the challenges of daily business regulations. The two departments have designed a guidebook the **"Michigan Manufacturers' Guide to Environmental and Safety & Health Regulations,"** which is packed full of easy-to-read discussions about state and federal environmental rules. The guidebook also summarizes the MIOSHA programs that affect manufacturers of all sizes.

The two departments are sponsoring **"Regulations 101,"** a series of workshops which provide an introduction to environmental and safety and health regulations affecting Michigan's manufacturing industry. Anyone who is responsible for keeping workers safe, protecting the environment, or operating a profitable business will benefit by attending.

During the workshops, DEQ and CIS instructors will explain how to use the guidebook, provide an overview of some of the common standards and regulations applicable to manufacturers, and answer questions. Topics will include: air quality regulations, hazardous waste inspections, above and below ground storage tanks, storm water discharge tanks, pollution prevention initiatives, the top 25 MIOSHA violations, and occupational health issues.

The guidebook is the textbook for the workshops, and begins with a self-assessment checklist to steer you through the regulations that affect your business. Along with easy-to-read overviews of relevant regulations, you get telephone numbers that put you in direct contact with the agency experts who can help. You will also learn which current websites display the latest regulatory information.

We realize how complex and voluminous government regulations are. We also understand the huge responsibility you face to keep the environment clean, your workers safe, and your business profitable. Let the workshops and the guidebook help you meet these objectives.

Tuition of \$75 includes: continental breakfast, lunch, one copy of the guidebook, and workshop materials. Reduced tuition of \$50 is available if you already have a guidebook. If paying reduced tuition, please bring the guidebook with you as it will be used during the workshop. Copies of the guidebook are available for \$25.

If you are interested in attending a workshop or ordering the guidebook, please call the **DEQ Environmental Assistance Center**.

"Regulations 101" Workshop Schedule

Date	City	Location
May 22	Escanaba	Days Inn
May 24	Thompsonville	Crystal Mountain Resort
May 30	Grand Rapids	Airport Hilton
May 31	Mt. Pleasant	Holiday Inn
June 5	Ann Arbor	Weber's Inn
June 7	Auburn Hills	Holiday Inn Select
June 13	Alpena	Holiday Inn

DEQ Environmental Assistance Center
800.662.9278

Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
May			
9, 16, 23	Safety & Health Administrator Course Grand Rapids	Jerry Swift Penny Mollica	616.698.1167
10	When MIOSHA Visits Flint	Lee Jay Kueppers Anita Marshall	810.257.0749
10	MIOSHA Recordkeeping & Workers' Compensation Strategies Canton	Suellen Cook Jacqueline Schank	734.464.9964
15	Machine Guarding Gaylord	Doug Kimmel Shelly Hyatt	231.546.7264
16	Strategies for Nursing Homes & Personal Care Facilities Escanaba	Bob Carrier Jane Bernard	906.786.5802
17	Powered Industrial Truck "Train-the-Trainer" Port Huron	Bernard Sznajder Joel Endelman	810.989.5748
21, 22, 23	Safety & Health Administrator Course Benton Harbor	Quenten Yoder Peg Stone	616.926.4190
22	Powered Industrial Truck "Train-the-Trainer" Sterling Heights	Brian Dixon Ed Ratzenberger	248.557.7010
22	Safety for the Lawn Care Industry Shelby Township	Lee Jay Kueppers Gene Shepard	810.731.3476
22, 23, 24	Safety & Health Administrator Course Kalamazoo	Micshall Patrick Lisa Peet	616.373.7807
23	Strategies for Nursing Homes & Personal Care Facilities Westland	Linda Long Toni Herron	734.427.5200
23 & 24	10-Hour Construction Seminar-Emphasizing Major Fatalities Southfield	Jerry Faber Keijania Mann	248.948.7000
June			
4, 11, 18, 25	Safety & Health Administrator Course Southfield	Karen Odell Pat Murphy	248.353.4500
5	Ergonomics - Hazard Recognition Shelby Township	Lee Jay Kueppers Gene Shepard	810.731.3476
12	Recordkeeping, Accident Investigation & Work-Comp Strategies Westland	Linda Long Toni Herron	734.427.5200
12	Safety Seminar for Fire Departments Shelby Township	Lee Jay Kueppers Gene Shepard	810.731.3476
12, 13	Two-Day Mechanical Power Press Southfield	Richard Zdeb Ed Ratzenberger	248.557.7010
13	MIOSHA Recordkeeping Grand Rapids	Micshall Patrick Dannielle Wheeler	800.704.7676
14, 15	10-Hr Construction Safety Course Midland	Tom Swindlehurst Vicki Oliver	517.832.8879
18	Powered Industrial Truck "Train-the-Trainer" Livonia	Suellen Cook Diane Burns	734.462.4448
25, 26, 27	Safety & Health Administrator Course for Construction Midland	Tom Swindlehurst Steve Jones	517.496.9415

Co-sponsors of CET seminars may charge a nominal fee to cover the costs of equipment rental, room rental, and lunch/refreshment charges. For the latest seminar information check our website, which is updated the first of every month: www.cis.state.mi.us/bsr/divisions/set/set_cal.htm.

Construction Safety Standards Commission

Labor

Mr. Carl Davis**
Mr. Daniel Corbat
Mr. Andrew Lang
Mr. Martin Ross

Management

Mr. Peter Strazdas*
Mr. Charles Gatecliff
Mr. Thomas Hansen
Ms. Cheryl Hughes

Public Member

Mr. Kris Mattila

General Industry Safety Standards Commission

Labor

Mr. Michael D. Koehs*
Mr. James Baker
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Mr. Timothy J. Koury**
Mr. Michael L. Eckert
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Mr. Robert DeBruyn
Mr. Michael Lucas
Mr. Richard Olson

Public Member

Dr. Glen Chambers

*Chair **Vice Chair

Standards Update

MIO SHA Standards Index Revision

The format for the MIO SHA Occupational Safety and Health Standards Index and Order Form has been revised to reflect the reorganization of Safety and Health Standards into cohesive units. The General Industry standards that fall under the OSHA 1910 categories for both safety and health are now contained in Section A. Construction safety and health standards that fall under OSHA 1926 categories are contained in Section B, the set of Administrative Rules is now identified as Section C, and Agricultural safety and health standards are combined in Section D.

This reorganization of standards will assist customers in locating standards appropriate to their type of industry requirements, and will also reflect the centralization of Standards distribution services.

Future revisions to the Standards Index Order form will address the conversion of the Occupational Health four-digit rule number to the R325 numbers to give consistency to the Occupational Health numbering system. A second change that is ongoing is the assignment of Part Numbers to the Occupational Health standards, as the standards are revised or reformatted. These changes are intended to give the customer better access to the rules, both on the Standards Index Order Form and on the Standards Web page.

When ordering sets of standards, please note that this recombination has not resulted in any increased cost of individual sets. If you wish to be placed on the Standards Mailing List, please mark that box on the Index Order Form, or call the Standards Division. You will then be notified of any new or amended standard, and of any public hearings to be held on proposed rules.

Section A. MIO SHA Health and Safety Standards for General Industry

Section B. MIO SHA Health and Safety Standards for Construction

Section C. MIO SHA Administrative Rules

Section D. MIO SHA Health and Safety Standards for Agriculture Operations

To receive the MIO SHA Standards Index or for single copies and sets of standards, please contact the MIO SHA Standards Division, at 517.322.1845, or on the website at www.cis.state.mi.us/bsr/divisions/std.

New Standards Commission Member

The newest appointment to the **General Industry Safety Standards Commission** is **Michael L. Eckert**. On January 15, 2001, Governor John Engler, appointed Eckert to represent employers for a term which will expire March 26, 2003.

Eckert has been a dedicated citizen volunteer participating in numerous MIO SHA advisory forums, including the advisory committees for Construction Standard Part 22 - Signs, Signals, Tags, & Barricades; and Construction Standard Part 18 - Fire Protection & Prevention. Additionally, Eckert along with many other Michigan health and safety professionals, participated in developing MIO SHA's Five Year Strategic Plan.

Currently, he is the Director of Safety Services for the Michigan Road Builders Association (MRBA) and is the key association coordinator for a partnership program between MRBA, CIS and MIO SHA. Eckert is a Certified Safety Professional, and a Certified Safety and Health Manager, as well as an EMT Specialist. MIO SHA extends our congratulations to Michael and thanks him for his dedication to the safety and health of Michigan workers.

To contact Connie Munsch, Chief of the Standards Division, or any of the Commissioners, please call the Standards Division Office at 517.322.1845.

Status of Michigan Standards Promulgation

(As of March 16, 2001)

Occupational Safety Standards

General Industry

Part 18.	Overhead and Gantry Cranes	At Advisory Committee
Part 19.	Crawler, Locomotives, Truck Cranes	Approved by Commission for review
Part 20.	Underhung and Monorail Cranes	Approved by Commission for review
Part 37.	Accident Prevention Signs & Tags	Approved by Commission for review
Part 56.	Storage and Handling of Liquefied Petroleum Gases	Final, effective 8/7/00
Part 58.	Vehicle Mounted Elevating & Rotating Platforms	Approved by Commission for review
Part 69.	Compressed Gases	Final, effective 8/7/00
Part 74.	Fire Fighting/Amendment #2	Commission approved first draft
Part 93.	Air-Receivers	Final, effective 8/7/00

Construction

Part 07.	Welding & Cutting	Approved by Commission for review
Part 10.	Lifting & Digging	Final, effective 1/4/01
Part 14.	Tunnels, Shafts, Cofferdams & Caissons	Informal approval by ORR
Part 18.	Fire Protection & Prevention	At Advisory Committee
Part 20.	Demolition	Final, effective 1/4/01
Part 22.	Signs, Signals, Tags & Barricades	Public Hearing held
Part 26.	Steel and Precast Erection	Approved by Commission for review
Part 30.	Telecommunications	Approved by Commission for review
Ad Hoc	Communication Tower Erection	To be convened

Occupational Health Standards

General Industry

Abrasive Blasting	Draft at LSB for informal review
Air Contaminants	Draft at LSB for informal review
Asbestos for General Industry	Final, effective 8/15/00
Bloodborne Infectious Disease	Informal approval by ORR
Illumination R4104-4106 (Occupational Health rules only)	Informal approval by LSB
Lead	Final, effective 10/12/00
Methylenedianiline	Final, effective 8/7/00
Medical Services/First Aid R4401	Approved by Commission for review
Personal Protective Equipment	Final, effective 9/28/00
Powered Industrial Trucks R3225	Rescinded
Respirators in Dangerous Atmospheres	Rescinded

Construction

Gases, Vapors, Fumes, Dust & Mist R6201	RFR Approved
Noise in Construction R6260	Final, effective 10/6/00
Personal Protective Equipment for Construction R6260	Final, effective 8/15/00

The MIOSHA Standards Division assists in the promulgation of Michigan occupational safety and health standards. To receive a copy of the MIOSHA Standards Index (updated May 2000) or for single copies and sets of safety and health standards, please contact the Standards Division at 517.322.1845.

RFR Request for Rulemaking
 ORR Office of Regulatory Reform
 LSB Legislative Services Bureau
 JCAR Joint Committee on Administrative Rules

Variances

Published April 30, 2001

Following are requests for variances and variances granted from occupational safety standards in accordance with rules of the Department of Consumer & Industry Services, Part 12, Variances (R408.22201 to 408.22251).

Variances Requested Construction

Part number and rule number from which variance is requested

Part 8 - Material Handling: Rule R408.40833, Rule 833 (1)

Summary of employer's request for variance

To allow employer to tandem lift structural steel members under controlled conditions and with stipulations

Name and address of employer

American Erectors, Inc.

Location for which variance is requested

Toyota Technical Center, Ann Arbor

Daimler Chrysler Aviation Pontiac-Oakland Airport, Waterford

Name and address of employer

Douglas Steel Erection Company

Location for which variance is requested

Univeristy of MI Palmer Drive Life Sciences Institute, Ann Arbor

Name and address of employer

General Steel Erectors, Inc.

Location for which variance is requested

The Woodward Oakland Building, Birmingham

Name and address of employer

Johnson Steel Fabrication, Inc.

Location for which variance is requested

Breslin Student Events Center - Addition, East Lansing

Union Missionary Baptist Family Life Center, Lansing

Borg Warner Powertrain Technical Center, Auburn Hills

Name and address of employer

MBM Fabricators & Erectors

Location for which variance is requested

Detroit Water & Sewerage Department Water Works Park II, Detroit

Name and address of employer

McGuire Steel Erection, Inc.

Location for which variance is requested

Fox Volkswagen, Rochester Hills

Bavarian Motor Village-Audi, Rochester Hills

Franklin High School, Livonia

Churchill High School, Livonia

Fitzpatrick Manufacturing, Sterling Heights

Ashley Mews Townhomes, Ann Arbor

Name and address of employer

Midwest Steel, Inc.

Location for which variance is requested

General Motors Tech Center, Warren

Ford Heritage Assembly Plant, Dearborn

Name and address of employer

Noreast Erectors, Inc.

Location for which variance is requested

Mt. Clemens Office Building, Mt. Clemens

Name and address of employer

Sova Steel, Inc.

Location for which variance is requested

Welcome Missionary Baptist Church, Pontiac

Name and address of employer

Whaley Steel Corp.

Location for which variance is requested

Benson Ford Research Center, Dearborn

Name and address of employer

Whitmore Steel

Location for which variance is requested

Barton Malow Headquarters, Southfield

Ford Child Care, Sterling Heights

Part number and rule number from which variance is requested

Part 8 - Material Handling: Rule R408.40831 (8) and

Part 20 - Demolition: Rule 408.42034 (6)

Summary of employer's request for variance

To allow for material to be dropped more than 20 feet outside the exterior of the building without use of a chute.

Name and address of employer

JKM Roofing

Location for which variance is requested

Detroit Public Schools Roof Replacement Program, Detroit

Part number and rule number from which variance is requested

Part 13 - Mobile Equipment: Ref. #1926.1000 (a)(1&2)(b)

Summary of employer's request for variance

To allow the employer to work under overhead conveyor obstructions in an assembly plant to dig shallow foundation pad excavations without the use of rollover equipment providing certain stipulations are adhered to.

Name and address of employer

Merlyn Contractors, Inc.

Location for which variance is requested

General Motors Technological Center, Warren

Part and rule number from which variance is requested

Part 14 - Tunnels, Shafts, Caissons and Cofferdams: Rule R408.41482, Rule 1482 (9)

Summary of employer's request for variance

To allow employees to remain in the caisson under controlled conditions when material is being hoisted from the caisson and according to certain stipulations.

Name and address of employer

The Millgard Corporation

Location for which variance is requested

Detroit Edison Monroe Power Plant, Monroe

Part number and rule number from which variance is requested

Part 32 - Aerial Lift Platforms: Rule R408.43209 Rule 3209 (8) & Rule 3209 (9)

Summary of employer's request for variance

To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided certain stipulations are adhered to.

Name and address of employer

Michigan Mechanical Insulation, Inc.

Location for which variance is requested

Northwest Airlines Midfield Terminal Site, Romulus

Name and address of employer

Midwest Steel, Inc.

Location for which variance is requested

Detroit Axle Plant Addition, Detroit

Ford Heritage Assembly Plant, Dearborn

Part number and rule number from which variance is requested

Part 45 - Fall Protection: Ref. #1926.502 (g) (1) (ii)

Summary of employer's request for variance

When erecting precast concrete members, to allow the control line to be erected not less than 6 ft. not more than 80 ft. from the edge.

Name and address of employer

Alberici - Walsh - PBM

Location for which variance is requested

Midfield Parking Structure, Detroit

Variances Granted Construction

Part number and rule number from which variance is requested

Part 8 - Material Handling: Rule R408.40833, Rule 833 (1)

Summary of employer's request for variance

To allow employer to tandem lift structural steel members under controlled conditions and with stipulations.

Name and address of employer

Douglas Steel Erection Company

Location for which variance is requested

General Motors Platinum Plant, Delta Township

Name and address of employer

Johnson Steel Fabrication, Inc.

Location for which variance is requested

Timber Wolf Lake Dining Hall & Activity Hub, Lake City

Name and address of employer

McGuire Steel Erection, Inc.

Location for which variance is requested

A. T. Callas Bldgs. A & B, Troy

Romulus Elementary School, Romulus

GM Bldg. 104 - Milford Proving Grounds, Milford

Tri-City Christian Center, Canton

E. D. S. Office Building, Auburn Hills

Oakland Commons Bldg. E, Southfield

New Plymouth High School, Canton

Delphi Bldgs, C & D, Troy

Walled Lake High School, Commerce Twp.

Name and address of employer

SCI/Steelcon

Location for which variance is requested

Ford Field Domed Stadium Project, Detroit

Name and address of employer

Sova Steel, Inc.

Location for which variance is requested

Palladium Theater, Birmingham

Ford Field Domed Stadium Project, Detroit

Name and address of employer

Whitmore Steel

Location for which variance is requested

University of Michigan, Ann Arbor

Part number and rule number from which variance is requested

Part 12 - Scaffolds & Scaffold Platforms: R408.41221, Rule 1221(1)(c)

Summary of employer's request for variance

To allow employer to use stilts at a maximum height of 24 inches under controlled conditions and according to certain stipulations.

Name and address of employer

William Reichenbach Co.

Location for which variance is requested

General Office Building - Secondary Complex, Lansing

Part number and rule number from which variance is requested

Part 13 - Mobile Equipment: Ref.#1926.1000 (a) (1&2) (b)

Summary of employer's request for variance

To allow the employer to work under overhead conveyor obstructions in an assembly plant to dig shallow foundation pad excavations without the use of rollover equipment providing certain stipulations are adhered to.

Name and address of employer

Aristeo Construction

Location for which variance is requested

Ford Michigan Truck Plant, Wayne

Part number and rule number from which variance is requested

Part 32 - Aerial Lift Platforms: R408.43209, Rule 3209 (8), Rule 3209 (8) (b), Rule 3209 (8) (c), & Rule 3209 (g)

Summary of employer's request for variance

To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided certain stipulations are adhered to.

Name and address of employer

S. A. Comunale

Location for which variance is requested

Midfield Terminal Project, Romulus

Name and address of employer

John E. Green Company

Location for which variance is requested

General Motors Grand River Assembly Project, Lansing

Name and address of employer

Midwest Steel, Inc.

Location for which variance is requested

Ford Motor Co., Romeo

Name and address of employer

The State Group International

Location for which variance is requested

Northwest Midfield Terminal Project, Detroit

Part number and rule number from which variance is requested

Part 32 - Aerial Lift Platforms: R408.43209, Rule 3209 (8) (b) & Rule 3209 (9)

Summary of employer's request for variance

To allow employer to remove the guardrail system of a Manually Propelled Elevated Work Platform and to use a ladder on the platform to gain additional height under controlled conditions and according to certain stipulations.

Name and address of employer

Walter Toebe Construction Company

Location for which variance is requested

I-94/I-75 Interchange Project, Detroit

Ergonomics

Cont. from Page 3

Section 11(a) of the MIOSHA Act (the General Duty Clause), states that it is the responsibility of the employer to: "Furnish to each employee, employment and a place of employment which is free from recognized hazards that are causing, or are likely to cause, death or serious physical harm to the employee."

MIOSHA may use the General Duty Clause to correct ergonomic hazards which meet the criteria established in Section 11(a), and where feasible controls can be documented. A section 11(a) violation may address any of the following elements.

■ **Worksite analysis** to recognize and identify existing ergonomic risk factors in the workplace. This analysis should include development and use of an ergonomic checklist and employee questionnaire. Periodic surveys of the workplace shall be conducted at appropriate intervals to evaluate work practices and engineering controls. Employee participation in the ergonomic program should be encouraged through a mechanism such as a safety and health committee.

■ **Medical management** which includes accurate record keeping of cumulative trauma disorders. The program should address early recognition, evaluation, and referral of cumulative trauma disorder cases, and should include conservative treatment and conservative return to work. Systematic worksite review by the medical team should also be included in the program.

■ **Training and education** for exposed employees, including methods to evaluate the effectiveness of the training. Re-training should be done annually, or as operations change. Training should address hazards associated with the job, the risks of developing cumulative trauma disorders, symptoms of exposure, and how to prevent the occurrence of cumulative trauma disorders. A supervisor's training program should also be implemented to allow recognition of the signs of cumulative trauma disorders and to reinforce the employer's ergonomics program. The training program should include the employer's health care providers to ensure that they are able to recognize and prescribe appropriate treatment for cumulative trauma disorders.

■ **Hazard prevention and control** which includes engineering, administrative, and work practice controls, and personal protective equipment where relevant.

Engineering controls are designed by a qualified individual(s) and may include workstation redesign, tool and handle redesign, and change of work methods. The goal of this program should be to make the job fit the person.

Administrative controls are

implemented which reduce the duration, frequency, and severity of exposure to ergonomic stress. These controls may include job rotation, reduction of repetitions, and preventive maintenance of related equipment. Personal protective equipment shall be evaluated to determine any contribution to ergonomic stress.

Work practice controls are implemented which include proper work techniques, new employee conditioning, and monitoring and modifications as necessary to minimize ergonomic stressors.

Conclusion

MIOSHA will continue to place a strong emphasis on ergonomics and urges all employers to take immediate steps to eliminate musculoskeletal injuries in their workplaces. As this article indicates, there are real, practical solutions available to employers which can spare workers needless injuries and illnesses, while significantly reducing employer costs.

Photos for this article were taken at **Brass Craft Manufacturing's Brownstown Plant**, which recently won the **MIOSHA Ergonomic Success Award**. The Brownstown plant significantly reduced its injuries, resulting in a reduction of workers' compensation costs from \$250,000 in 1997 to \$811 in 1999. More important, their ergonomic changes dramatically reduced the human suffering associated with workplace injuries. They initiated more than 14 specific ergonomic improvements, including: Installing "sit/stand" chairs to relieve prolonged standing, installing foot rails to relieve back stress, installing turntables to reduce reaching strain, and many other improvements which eliminated lifting, pulling and straining procedures.

For further information, please contact the **MIOSHA Occupational Health Division at 517.322.1608** for a copy of "Excerpts From Michigan Occupational Health Program Directive No. 00-3, Enforcement Policy and Procedures for Conducting Investigations of Ergonomic Hazards." For information on implementing an ergonomics program in the workplace or onsite assistance, please contact the **CET Division at 517.322.1809**. ■



Doing it Right—A "Sit/stand" chair is used by this employee, which eliminates fatigue and injuries from prolonged standing, at Brass Craft Manufacturing's Brownstown Plant.

Lomac Settlement

Cont. from Page 1

with workplace safety and health as a top priority.

“The workers at this company and all companies in Michigan must be afforded a safe and healthy workplace,” said Smith. “This agreement provides the foundation and framework for immediate improvements, as well as the prevention of future incidents.”

“We are pleased that Lomac has agreed to make the safety and health improvements provided for in this agreement,” said Smith. “We are also pleased that most of the costs in this agreement are dedicated to protecting workers and the community, rather than expended on prolonged litigation.”

Accident Background

Lomac LLC operates a chemical manufacturing plant, and produced two synthetic organic chemical products: 3,3'-dichlorobenzidine (DCB), an intermediate organic chemical that is used to make yellow inks and pigments; and **Oryzalin™**, a proprietary herbicide compound. They employed about 160 workers at the time of the accident.

At approximately 1:10 p.m., April 12, 2000, two explosions occurred in rapid succession at Lomac in the area of the plant where Oryzalin™ was made. Eight workers sustained injuries requiring hospitalization: four pipefitters from Northern Boiler and Mechanical Contractors, Inc.; one field service agent from Bertsch Instrumentation Technology; and three Lomac employees. Two other Lomac employees, who were injured during the evacuation after the blast, were treated on an outpatient basis. The contract workers were installing two tanks and upgrading the waste treatment system at the site of the explosions.

The first, smaller blast occurred in a two-inch stainless steel pipe leading from Building #3 to the wet well. The second, larger blast oc-

curred below grade in the southwest quadrant of the wet well. Wastewater from all operations was collected and neutralized in the wet well.

Lomac facilities sustained substantial damage from the second blast and the high-energy fragments, including: destruction of the wet well, destruction of nearby Building #9, destruction of the Weld Shop, and serious damage to Building #3. It's estimated the magnitude of the second blast was equivalent to 250 pounds of TNT.

MIOSHA Investigation/Citations

The complex, nine-month investigation was conducted by a team of health and safety officers from the Occupational Health, General Industry Safety, and Construction Safety Divisions of the CIS Bureau of Safety & Regulation, which is responsible for the MIOSHA program. MIOSHA also retained an expert in process safety management to assist in the investigation. MIOSHA investigations focus on identifying violations of state worker safety and health standards at the time of the accident, and do not determine the cause of the accident.

The MIOSHA team found a significant number of workplace safety and health violations, particularly in the area of process safety management. Under MIOSHA rules, manufacturers have strict responsibilities concerning the use of hazardous chemicals. MIOSHA's **Process Safety Management of Highly Hazardous Chemicals (PSM)** of 1993 establishes requirements to prevent, or minimize, the potential for fire or explosion in manufacturing processes where hazardous chemicals are involved.

Lomac was made award of the PSM standard in 1993 during a MIOSHA compliance inspection, and has a history of PSM violations. Since the standard went into effect in 1993, the company has had 19 incidents related to PSM.



Located on the south wall of the Wet Well, this tank was damaged during the explosion.

As a result of the 1993 inspection, Lomac developed a “Process Safety Management Plan” which contains procedures for operating processes covered by the PSM standard. Each section in the plan describes activities for managing process hazards in a particular area. However, Lomac did not consistently follow the requirements developed in their own plan.

“I believe the April 12th explosion was a true ‘wake-up call’ for Lomac,” Wilbur said. “This comprehensive agreement provides an opportunity for the company to make lasting improvements in worker and community safety and health protections.”

CIS issued 15 unclassified violations of the following standards: Flammable and Combustible Liquids, Process Safety Management of Highly Hazardous Chemicals, Emergency Response Plan, and Electrical Safety-Related Work Practices. The violations include a \$150,000 penalty, and all conditions have been abated.

Settlement Agreement

The Settlement Agreement details significant activities that Lomac must accomplish within specified time frames, to improve the overall safety of their operations.

The company has committed to: a full assessment of worker safety and health in all areas; significantly improved training for employees, especially in the area of process safety management; and inclusion of workplace safety into every aspect of corporate management. The agreement also provides for monitoring of the company's progress by MIOSHA.

Compliance with this agreement will bring many benefits to the community, above and beyond the advantages received by employees. Components of the EPA (U.S. Environmental Protection Agency) Risk Management Program are very similar to the components of MIOSHA's PSM standard. Several of the elements of this agreement are specific to the surrounding community, which will also benefit from Lomac's compliance with the PSM standard. ■



Falling high-velocity debris in the blast zone west of Building #3 damaged this contractor's truck.

Meat Products Industry

Cont. from Page 4

Housekeeping

Housekeeping is an ongoing issue of concern in meat products facilities. Cleaning needs to be a daily, even hourly, concern with nonstop attention. Floors must be cleared of fat and water. Slips and falls may also be minimized by adding friction materials to floor coatings or through high-traction boots for workers.

Electrical Safety

The need to guard live parts of electrical equipment operating at 50 volts or more against accidental activation is commonly cited. This includes doors of electrical panels left open, and unused openings in electrical panels not covered.

Walking and Working Surfaces

Standard barriers are required around open-sided floors and platforms that are four feet or more above the adjacent level, or adjacent to dangerous equipment. Work platforms around the kill floor are utilized to access carcasses which are hanging from trolley conveyors. The side of the work platforms facing the carcasses are often not provided with a standard barrier, due to interference with the various work operations being conducted by workers on the carcasses as they move past. When a standard barrier cannot be used, other feasible means to address this concern, such as a safety belt and lanyard attached to a horizontal rail above and behind the workers, can be considered on an individual basis.

Powered Industrial Trucks

Operators of powered industrial trucks must be selected, trained and licensed by the employer following the requirements of the standard. Lack of a valid operator permit is the most often identified deficiency.

Personal Protective Equipment

The need for personal protective equipment must be assessed by analyzing the hazards of each type of job in the facility. Body and foot protection need to be addressed due to the wet nature of many jobs. Cut resistant gloves, arm guards, chest, and belly protection need to be addressed where knives are utilized in hand trimming and boning operations. "Cold" rooms and freezers present temperature exposures that must be addressed as well.

Attention must also be given to ensure that new employees are trained on the hazards, duties, and safeguards of the job prior to initial assignment.

Ergonomic Issues

In addition to the above, ergonomic hazards must be a foremost concern for those in the meatpacking industry. In 1990, federal OSHA issued ergonomic guidelines for meatpacking plants. Since that time, employers in the meat processing industry have benefitted from implementing the use of curved knives to reduce exertion, adjusting work station heights, and reducing heavy lifting. These types of efforts to adapt the workplace to fit employees is positive

and helps to reduce musculoskeletal disorders.

According to a federal OSHA report, one North Carolina employer in the poultry processing industry was able to reduce workers' compensation claims 75 percent by installing new deboning and cutting workstations and wellness programs at its plants. The savings more than paid for the investment in new equipment and programs. (For more information on ergonomics, please see page 4.)

Safety & Health Program

Employers are encouraged to analyze their workplace to develop and adopt a comprehensive safety and health program that addresses the need of their specific workplace. Several studies, including one in Michigan, have documented the critical difference that safety and health programs make between employers with high injury rates and those with low rates.

CET Services

Michigan employers in the meat products industry can take advantage of the services available from the Consultation Education and Training (CET) Division. The CET Division has sample safety and health, lockout-tagout, Right to Know, and ergonomic programs available at no charge. In addition, consultants are available to visit worksites to provide training, review programs and make recommendations for improvements. To learn more about the services available from the CET Division, please call 517.322.1809. ■

Noise

Cont. from Page 5

a control measure may pose staffing issues for the employer.

Another alternative is to establish a **hearing conservation program**. Employers with employees who are exposed to noise at 85 dBA or more during the workshift are required by law to implement an effective hearing conservation program. This involves monitoring an employee's noise exposure and providing him or her with audiometric testing and noise training on an annual basis. Hearing protection such as earplugs or earmuffs should be provided to the employee and properly worn.

An ongoing study of Michigan establishments for the implementation of hearing conservation programs and the reporting of work-related illnesses (including hearing loss) is being conducted by Kenneth D. Rosenman, M.D., of Michigan State University. Dr. Rosenman is under contract with MIOSHA to perform various studies. The study has attracted national attention because it has revealed that many establishments have not implemented a hearing conservation program and that reports of occupational noise-induced hearing loss are often not being made to the state authorities. Michigan requires employers or health care professionals to report

all occupational illnesses to the state. In 1999, there were 2,119 cases of occupational noise-induced hearing loss submitted to MIOSHA.

MIOSHA Special Emphasis

Hearing loss is a primary concern to MIOSHA. One of the goals in the MIOSHA Strategic Plan is to reduce the number of noise-induced hearing losses for the employees in the state. The **Occupational Health Division (OHD)** is conducting enforcement inspections in several industrial classifications where employee noise exposures are considered to be the most prevalent. OHD is also disseminating literature to increase the awareness of noise and to provide some information on how to better protect the employee from noise exposure. Information is also available on the NIOSH (National Institute for Occupational Safety and Health) website at: www.cdc.gov/niosh.

The **Consultation Education and Training (CET) Division** offers free consultative services to Michigan employers. These services include: helping employers with noise exposure monitoring of their employees; assisting them in establishing a good hearing conservation program; offering some in-

expensive means of noise controls; and training employers and employees in the effects of noise exposure, the MIOSHA Occupational Noise Exposure Standard, and the benefits of a good hearing conservation program.

Our sense of hearing is a marvelous gift. We can communicate with our loved ones, enjoy music, and appreciate the sounds of nature. Don't let the relentless exposure to loud noises in your everyday life reduce these experiences for you or for your children. Help is available for your business. Please call the **CET Division** at 517.322.1809 and ask for assistance. ■



This employee is using earmuffs to reduce his exposure to the noises generated from a small grinding operation.

How To Contact Us

MIOSHA Complaint Hotline	800.866.4674
Fatality/Catastrophe Hotline	800.858.0397
General Information	517.322.1814

Free Safety/Health Consultation	517.322.1809
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**Consumer & Industry Services
Bureau of Safety & Regulation
Director: Douglas R. Earle**

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The purpose is to educate Michigan employers and employees about workplace safety and health. This document is in the public domain and we encourage reprinting.

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